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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,151	06/08/2005	Giovanni Mogna	HOFF-38315	3249
86378	7590	06/23/2010		
Pearne & Gordon LLP 1801 East 9th Street Suite 1200 Cleveland, OH 44114-3108			EXAMINER BADR, HAMID R	
			ART UNIT 1781	PAPER NUMBER
			NOTIFICATION DATE 06/23/2010	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/538,151	<b>Applicant(s)</b> MOGNA, GIOVANNI	
	<b>Examiner</b> HAMID R. BADR	<b>Art Unit</b> 1781	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 16-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

1. Applicants' amendment filed 3/29/2010 is acknowledged.
2. Claims 16-30 are being considered on the merits.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 16-24, 27 and 29-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 16 and 27 are indefinite for "to provide greater aptitude to coagulation of the milk during its transformation into dairy products". The term "to provide a greater aptitude" is a relative term which renders the claim indefinite. The term is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear over what standard this is to be "a greater aptitude", and also what properties are provided for greater aptitude to coagulation (i.e. faster time, increased yield, harder texture etc.).

5. Claim 27 is indefinite for "effective to treat milk". It is unclear what is meant by effective. Since the coagulation of milk is effectuated through other means, e. g.

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addition of rennin, it is not clear what is meant by “effective to treat milk for to provide greater aptitude to coagulation”.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 16-21, 23-25, 27-30, rejected under 35 U.S.C. 103(a) as being unpatentable over Khalid et al. (1990, Proteolytic activity by strains of *Lactobacillus plantarum* and *Lactobacillus casei*; hereinafter R1) in view of Reinbold et al. (US 4,085,228; hereinafter R2) .

8. R1 investigates the proteolytic activity of the nonstarter lactic acid bacteria and its role in the maturation of the cheese. (page 3068, introduction, paragraph 2).

9. R1 discloses that *Lactobacillus plantarum* occur in most hard and semi-hard cheeses as adventitious bacteria and they may contribute to flavor development during ripening process. Evaluating strains of lactobacilli by monitoring electrophoresis may be of practical value in selection of strains for potential use in cheese making. (page 3068, introduction, paragraph 3).

10. R1 concludes that the results from their study suggest that addition to cheese milk of strains of *Lactobacillus plantarum*, might be of practical importance in accelerating the cheese ripening process. (page 3075, Col. 1, paragraph 2)

11. R1 is silent regarding the treatment of milk before coagulation.

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12. R2 discloses the addition of *Lactobacillus plantarum* to the cheese milk before making the cheese curd. The milk is inoculated with 0.5-3% (w/w) of *Lactobacillus plantarum*.

13. Addition of a lyophilized form of the culture, as presently claimed, is a conventional method of inoculating the milk and thus would be obvious to an artisan.

14. R2 discloses the number of bacteria per gram of product (col. 7, Table B). The number of bacteria as disclosed by R2 would be in the range as presently claimed.

15. While R2 discloses the incorporation of *Lactobacillus plantarum* to the cheese milk before making cheese, R2 is silent regarding the specific strains as presently claimed.

16. Despite the fact that applicants have provided specific deposit names (LMG-P-21385 and LMG-P-21389) for the isolated strains of *Lactobacillus plantarum* disclosed and claimed, this does not provide a patentable distinction over those strains disclosed by R1 as also being proteolytic and used in cheese making, absent any clear and convincing evidence and/or arguments to the contrary. The USPTO does not possess the facilities to test each strain of microorganism. However, a reasonable rejection has been set forth and thus the burden shifts to applicant to demonstrate that the strain of the reference does not, in fact, have the same properties as that of the claimed strain. Alternatively, given the specific teachings of R1, the screening method for proteolytic strains of *Lactobacillus plantarum* and the incorporation of such strains in cheese milk, one would have been motivated to routinely screen out the identified strains and utilize such strains within the known methods of R1 and R2.

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17. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to screen out the proteolytic strains of *Lactobacillus plantarum* as taught by R1, and incorporate them into cheese as taught by R2. One would do so to accelerate the ripening process of cheese. Absent any evidence to contrary and based on the teachings of the cited references, there would be a reasonable expectation of success in screening out strains similar to the presently claimed strains and add them to the cheese milk for the beneficial effects of such strains.

18. Claims 22 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over R1 and R2, further in view of Yamauchi et al. (US 5,527,505; hereinafter R3).

19. R2 and R1 are silent regarding the inoculation of raw milk with lactic acid bacteria.

20. R3 discloses the inoculation of raw milk with lactic acid bacteria such as *Lactococcus lactis ssp. lactis* together with other lactic acid bacteria. (Abstract).

21. R3 discloses the addition of such species to the raw milk for their preservative properties during the storage of milk.

22. Therefore, it would have been obvious to one ordinary skill in the art, at the time the invention was made, to inoculate the raw milk with lactic acid bacteria including *Lactobacillus plantarum* and *Lactococcus lactis*. One would do that to cause proteolysis of milk as well as preservation of milk. Absent any evidence to contrary and based on the combined teachings of the cited references, there would be a reasonable expectation of success in treating cheese milk before making the cheese curd.

### ***Response to Arguments***

Applicants' arguments have been thoroughly reviewed. These arguments are not deemed persuasive for the following reasons.

1. Applicants argue that R2 adds the *Lactobacillus plantarum* to produce reduced lactose cheese which is non-burning and that the reference provides no hint as how to provide greater aptitude to coagulate milk.
  - a. In light of the new ground(s) of rejection, R1 discloses and teaches the use of proteolytic strains of *Lactobacillus plantarum* together with screening methods to isolate such strains. It is clear that these strains, being proteolytic, will help the action of rennin in the coagulation of milk.

On the other hand, the teachings of R2 are also substantial regarding the incorporation of *Lactobacillus plantarum* in cheese milk.

It should be realized that the motivation disclosed by prior art does not negate the obviousness of the claimed invention.

Obviousness under 103 is not negated because the motivation to arrive at the claimed invention as disclosed by the prior art does not agree with appellant's motivation", *In re Dillon*, 16 USPQ2d 1897 (Fed. Cir. 1990), *In re Tomlinson*, 150 USPQ 623 (CCPA 1966).

2. Applicants argue that R1 suggests the use of strains of *Lactobacillus plantarum* which preferentially degrade beta-casein and that the instantly claimed strains do not preferentially degrade beta-casein, since two bacterial strains work at low temperature.

a. The strains disclosed by R1 are proteolytic *Lactobacillus plantarum* strains. Being proteolytic they will affect the caseins regarding the coagulation of milk. On the other hand hydrolysis of beta-casein or lack of hydrolysis of beta-casein is not a requirement of the instant claims. Further, the specification as originally filed does not disclose the specific properties that the isolated strains might have. The specification simply discloses that the isolated strains help coagulate the milk. This property is inherent in all proteolytic strains of *Lactobacillus plantarum* including the strains of R1 and R2. Inclusion of proteolytic strains of *Lactobacillus plantarum* strains in cheese milk is disclosed by R1 and R2. Despite the fact that the names of such strains as presently claimed are different from the disclosed strains by R1 and R2, there is no evidence that the presently claimed strains are in fact advantageous over the strains disclosed by R1 and R2. Then in light of the teachings and the screening methods of R1 and R2, one of ordinary skill in the art would have been motivated to isolate such strains for the same purpose of accelerated ripening of cheese.

### **Conclusion**

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the



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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAMID R. BADR whose telephone number is (571)270-3455. The examiner can normally be reached on M-F, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hamid R. Badr  
Examiner  
Art Unit 1781

/Keith D. Hendricks/

Supervisory Patent Examiner, Art Unit 1781